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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/741,191	12/21/2000	Toshiyuki Hasegawa	0666.1640000	7023
26111	7590	12/12/2003	EXAMINER	
STERNE, KESSLER, GOLDSTEIN & FOX PLLC 1100 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			LUM, LEE S	
			ART UNIT	PAPER NUMBER
			3611	

DATE MAILED: 12/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/741,191

Applicant(s)

HASEGAWA, TOSHIYUKI

Examiner

Ms. Lee S. Lum

Art Unit

3611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-59 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-59 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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**DETAILED ACTION**

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1. An Amendment was filed 10/14/03.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2A. **Claims 11-31 and 45-59** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

First, in Claims 11, 23 and 45, the amendments of element numbers "71, 73 and 74" appear to be incorrect because these designations indicate correspondence with the fifth embodiment, while it is believed that these claims in fact describe the second embodiment as provided in the spec, p 15, paragraph 63, and fig 9. According to the spec, it is believed that these claims describe:

Input member\* 17

Output members\* 82, 87

Power dividing means 23 (center differential).

(\* see comments below re "input/output member")

The rationale for this interpretation is that the first few lines of paragraph 63 introduce an alternate, or second, embodiment to the first embodiment (described in Claims 1-10), with a center differential as the power divider, instead of a one-way clutch. Also, it appears logical that the inventor would not overlook the second, third and fourth embodiments with respect to representing these in the claims, and simply proceed to the fifth embodiment, because the second and third embodiments also recite a center differential as the power divider.

It is suggested that the amendments consisting of element labels be deleted to overcome any misunderstanding as to reference to a specific embodiment because the spec appears to corroborate this issue.

(In the Interview of 9/4/03, Examiner did suggest this type of amendment in an attempt to corroborate the claims with the spec, and so to better comprehend the invention. She apologizes for the inconvenience because it appears that this objective has not been achieved, and at this juncture, the spec appears to be the best authority to comprehend the claim language.)

Second, Examiner raises general issues of clarity with these Claims because they fail to correspond to the descriptions in the spec. Because there are multiple embodiments, these issues are even more pronounced. As a broad example, the spec does not employ the terms "input member" and "pair of output members" (as marked with asterisks above), but in all embodiments, "coaxial shafts 82/87 (or 82'/87')", where one shaft can be considered the "input" and the other the "output". (Note that only two shafts/members are being referred, not three.) Additionally, the spec does not employ in a general manner, "one axle synchronously interlocking with another axle (or input/output member)", but that *the main transaxle is always interlocked with another axle, and then through the center differential, the remaining axle/s is/are interlocked with the these two axles - all the italicized language being particularly clear and illustrative of the invention*. This particular matter is plainly provided in the spec; e.g., paragraph 64 for the second embodiment, and paragraph 75 for the fourth embodiment. Because of this specific problem, i.e., "input/output members" and "synchronously interlocking" of these elements, Claims 14-18, 26, 27 and 48-51 are especially unclear.

The Examiner regrets the inconvenience of raising this general rejection at this juncture of the prosecution, and not at the very start. She had hoped that after the Interview of 9/4/03 (in which her concerns re clarity were emphasized), the claims would be amended to resolve these issues. Unfortunately, this objective was not realized. It remains clear that if any of the second to seventh embodiments were meant to be represented in the claims, these embodiments simply cannot be identified because the claim language cannot be reconciled with the descriptions in the spec.

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The claims must be amended to correspond closely to the spec, if finality to this major complaint is sought; element names should ideally be very similar, or identical, to those in the spec, as should be the relationship/connections between the elements. Again, because there are multiple embodiments, and the latter embodiments are more complicated than the former, it is imperative that the spec be used as a guide for claim language.

Lastly in this matter, Examiner thanks attorney E. Hayes for his time in a phone conversation around 11/25/03 re this major issue.

Also, some other clarity issues:

Claims 15 and 18 are unclear because it is unknown how "two axles" can interlock with three members; "the input member, and and said output member".

Claim 27 is unclear because it is unknown how "the other two axles" can interlock with one "other output member".

In Claim 37, last line, "members" should be singular.

2B. **Claims 1-10, 58 and 59** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claim 1, line 8, "both of the other axles" (emphasis added) is unclear because there are "three or more axles", and the recitation does not account for the case of more than three.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

As best understood, **Claims 11-18, 23-27 32-37 and 45-51** are rejected under 35 U.S.C. 102(b) as being anticipated by Wernicke 6085853.

As best understood, re **Claims 11-14, 16, 17 and 23-26**, Wernick discloses a multi-wheel vehicle, best depicted in Figs 1 and 3, comprising

three or more axles 1-4, where one is frontmost steering axle 14,  
differential gear unit 8 including input 6, and pair of outputs 11/12, as best understood,  
the gear unit differentially sharing power transmitted into the input between the  
outputs,

wherein the input and outputs synchronously interlock with the axles, and,  
only the steering axle sync. interlocks with one of the outputs - 11.

Re **Claims 32-37**, the reference further discloses

prime mover 5,

each of three or more transaxle devices including an input means (inherent),

wherein one device is a main transaxle device 8 whose input means receives  
power from the prime mover prior to the other devices (fig 1),

first 6 and second 11 transmission members,

wherein the power from the main transaxle device is delivered to the first member,  
and,

wherein the second member sync. interlocks with both first member, and  
input means 12 of at least one of the other devices other than the main transaxle device,  
and, further including

one-way clutch/power divider 42 interposed between the two members,  
only the steering axle 14 sync. interlocks with either member (second member 11), and,  
the steering axle is other than the main transaxle device so that the input means of the  
former sync. interlocks with the second member.

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Re **Claim 38**, the reference further discloses  
three axles total,  
wherein axles other than the steering transaxle sync. interlock with the first member (i.e.,  
first member 6 is always sync. interlocked with all axles).

As best understood, re **Claims 45-47**, the reference further discloses  
the input and outputs sync. interlocks with either the axle of the main transaxle device, or  
the input means of one of the other devices.

As best understood, re **Claims 15, 18, 27 and 48-51**, the reference further discloses the  
recited elements.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness  
rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set  
forth in section 102 of this title, if the differences between the subject matter sought to be patented and  
the prior art are such that the subject matter as a whole would have been obvious at the time the  
invention was made to a person having ordinary skill in the art to which said subject matter pertains.  
Patentability shall not be negated by the manner in which the invention was made.

4B. **Claims 19-22, 28-31 and 54-57** are rejected under 35 U.S.C. 103(a) as being  
unpatentable over Wernick in view of Stieg 4462271.

Re **Claims 19, 20, 22, 28-31, 41-44 and 54-57**, Wernicke does not disclose brakes, while  
Stieg discloses

brake halves 52/54 (hydraulic ("wet") - Col 3, lines 24-25), pedal (inherent), and,  
differential means 100 for locking the output shafts together (Col 5, second full  
paragraph).

It would have been obvious to one with ordinary skill in the art at the time the invention  
was made to include brakes so that the vehicle may be stopped, as shown in Stieg. Also, it  
would have been obvious to use hydraulic brakes, as this type is in wide use, and as is very well-  
known in the art.

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Re **Claims 21 and 30**, the previous patents do not explicitly disclose that the nonsteerable axle includes a brake, but official notice is made of the fact that either a steerable or nonsteerable axle can have a brake.

4C. **Claims 39 and 52** is rejected under 35 U.S.C. 103(a) as being unpatentable over Wernick in view of Kaspar 5848664.

Wernick does not disclose a continuously-variable transmission, while Kaspar shows this element 35. It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this element, as shown in Kaspar, in order to increase the efficiency of drive power to the wheels according to the load conditions.

4D. **Claims 40 and 53** is rejected under 35 U.S.C. 103(a) as being unpatentable over Wernick in view of Kaspar, and in further view of Krettenauer et al 4639008.

The previous references do not disclose a power take-off (PTO) unit, while Krettenauer shows this element 8. It would have been obvious to one with ordinary skill in the art at the time the invention was made to include PTO, as shown in Krettenauer, to increase torque capabilities of the drive system, thus increase drive power under different load conditions.

5. **ALLOWABLE SUBJECT MATTER**

**Claims 1-10, 58 and 59 would be allowable** if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

Prior art does not disclose a multiwheel vehicle comprising, *inter alia*,

first and second transmission members, wherein the steering axle synchronously interlocks with the second member, and both, or more, of the other axles sync. interlocks with the first member, and,

power dividing means between the members, wherein power is directly transmitted to the first member.



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6. RESPONSE TO REMARKS

Examiner reiterates her rejections as provided above regarding MAJOR issues of clarity with claim language. Examiner also maintains her rejections using Wernicke in combination with Stieg, etc. Because of clarity issues, it is argued that these references obviate the recitations. However, Applicant is asked to note allowable subject matter.

7. Communication with the Examiner and USPTO

Any inquiry concerning this communication should be directed to Ms. Lum at (703) 305-0232, 9-530, M-F. Our fax number is (703)872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to customer assistance at (703) 306-5771.

Ms. Lee S. Lum  
Examiner  
12/5/03

A handwritten signature in black ink, appearing to read 'Lum', is positioned to the right of the typed name and date.